2.0 SITE DESCRIPTION

The following sections provide an overview of the physical features of the basin, ecological habitats, and demographics.

2.1 PHYSICAL FEATURES

The Coeur d'Alene basin encompasses a large, diverse geographic area. From east to west, the major surface water features in the basin are the North Fork Coeur d'Alene River (North Fork), South Fork Coeur d'Alene River (South Fork), lateral lakes and wetlands associated with the main stem of the Coeur d'Alene River, Coeur d'Alene Lake, the Spokane River, Long Lake, and the Spokane arm of Lake Roosevelt. Towns in the basin include (from east to west) Mullan, Wallace, Osburn, Kellogg, Kingston, Harrison, Coeur d'Alene, Post Falls, and further west along the Spokane River the city of Spokane. Major roadways in the basin are Interstate 90, Highway 95 and Highway 3. Dams along the Spokane River include Post Falls, Upper Falls, Monroe Street, Nine Mile, and Long Lake Little Falls.

As shown in Figures 1-1 and 1-2, the eastern portion of the basin is occupied by the Bitterroot Mountains. The topography in this area is steep with deeply incised canyons that are drained by tributaries to the North and South Forks. West of the mountains the topography flattens, and wide floodplains are present along the North and South Forks. From the confluence of the North and South Forks, the main stem of the Coeur d'Alene River flows westerly and discharges into Coeur d'Alene Lake. This section of river and floodplain is rather flat, with abundant development of wetlands and small lakes. Coeur d'Alene Lake is a long, prominent linear feature in the basin. Major surface water inputs to the lake are from the Coeur d'Alene River and the St. Joe River (which discharges into the southern end of the lake). At its northern end, the lake is drained by the Spokane River that flows westerly into Washington State and eventually discharges into the Columbia River. The Spokane River is characterized by both free-flowing erosive reaches and backwaters behind dams.

Within the basin, the Coeur d'Alene mining district is located east of the confluence of the North and South Forks. The principal mines are concentrated along approximately 15 miles of the North Fork and 35 miles of the South Fork and their tributaries (USEPA 1991). Mining in these areas generated waste rock and mill tailings that contaminated the hillsides, floodplains, streams, and rivers. Over time, natural processes have continued to transport large volumes of metal

contamination down the river system and deposit it in the beds and banks of the Main Stem, floodplains, Lateral Lakes, Coeur d'Alene Lake and the Spokane River.

2.2 ECOLOGICAL HABITATS

Except for portions of the Spokane River and its tributaries, the Coeur d'Alene basin is located within the Northern Rocky Mountains ecoregion of the United States. Much of the Spokane River lies along the border of the Northern Rocky Mountains and Columbia basin ecoregions. These regions are summarized as follows:

- The Northern Rocky Mountains ecoregion is characterized by rugged, high mountains with sharply crested ridges dissected by steep-walled, narrow stream valleys (Omernick and Gallant 1986). The hydrology of the region is snowmelt dominated with occasional rain or snow events.

- The Columbia basin ecoregion is characterized by deep, dry channels cut into the underlying Columbia River basalt formations. The arid landscape is composed of irregular plains, tablelands with high relief, and low mountains.

Six major habitat types are found within the Coeur d'Alene basin:

- Riverine
- Lacustrine (lakes)
- Palustrine (wetlands)
- Riparian (streambanks and floodplains)
- Upland
- Agricultural

2.3 BASIN DEMOGRAPHICS

The Coeur d'Alene basin had an early development cycle driven by the discovery of mineral deposits. As the mining declined so did the mining population and supporting business developments. The following paragraphs summarize past and present demographics.

An important aspect to development of the Coeur d'Alene basin was the rise in population in response to discovery of economic mineral deposits. The rapid start of development was evident

by six different proposed plans to build railroads into the area in 1886. Starting in the late 1800s and continuing into the mid-1900s, the population increased and many communities formed near major mines or mills in the district.

Mine and mill development along the North and South Forks and the tributaries was accompanied by development of many communities. These communities became thriving centers of activity in the basin. In Wallace, there were two main line passenger trains and two freight trains running daily. Mining in Canyon Creek was substantial enough to support the Burke line which had a passenger line. Wallace had eight sidetracks with capacity sufficient to hold 275 railroad cars (Railroads in the Coeur d'Alenes, 1983). Mining activities fueled the growth of the railroad system. By the mid-1920s the use of passenger cars and busses started to impact railroad passenger service, which gradually declined.

As mining declined in the district, so did the population. Many of the mine/mill buildings, hotels and other commercial establishments and residential development evident in historic photographs are no longer standing. Most of the canyons now give the appearance of a more rural setting.

With the exception of three larger cities on Coeur d'Alene Lake and the Spokane River (Coeur d'Alene, Post Falls, and Spokane), the majority of the basin is now considered to be rural. The upper portion of the basin (CSM Units 1 to 3) has many small rural communities, primarily along the Coeur d'Alene River and its tributaries. The majority of the population of the basin lives in the cities of Coeur d'Alene and Post Falls, Idaho and Spokane, Washington, which have populations exceeding 24,000, 7,000, and 177,000 people, respectively. All the other communities in the basin have populations below 2,000. The total population of the study area is 242,262. Ninety-eight percent of the study area is in the state of Idaho (CSM Units 1-4) and the remaining 2 percent is in the state of Washington (CSM Unit 5). However, because the largest city in the basin study area, Spokane, is included in the total population of the study area, 81 percent of the study population resides in Washington and only 19 percent of the study population resides in Idaho.